Massage Table

TESI® Relax

User Manual

The company gbo Medizintechnik AG has taken care in the preparation of this manual, but makes no expressed or implied warranty of any kind and does not assume any responsibility for errors or omissions.

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Notations

Times New Roman in type size 11	- Descriptions and explanations;
Arial in type size 10	- Keys and buttons of the TESI® tables;
Lucida in type size 10/11	- Text appears on the display of the TESI® tables.

Warnings and safety precautions

Warning!
Warnings which have to be observed by all means!

Caution!
Observe the instructions for use!

Note!
Information that will facilitate your work.

Glossary

Touch Screen	-	Display equipped with a touch panel. The touch panel reacts to the smooth touch of the respective sector.
Button	-	Sector in the Touch Screen which reacts to the smooth touch.
Touch	-	Smooth touch of the Touch Screen.
Standby-push-button	-	Switch to the right of the Touch Screen puts the device into the Standby-mode. In this mode Stand-by-display lights up.
Firmware	-	Software for a microcontroller in Eprom / Flashrom programmed.

Contents

1 Introduction

1.1 Intended use

Device for vibration massage

1.2 Note concerning the operating personnel

The device is to be operated by healthcare professionals only.

1.3 Description of the unit

The **TESI® Relax** tables are medical devices for combined physical therapy. The following options for treatment are offered:

- thermotherapy,
- paravertebral massage,
- vibration.

The system permits the optional or combined application of these modes. While the patient feels very comfortable with the treatment, for the therapist it offers high operational comfort for time-saving treatment.

Therapeutic effects of heat:

- Dilatation of the vascular system; reflectorically also in deep tissue layers. Also suited for bearers of implants without any restrictions;
- Increase in elasticity and mobility;
- Pain relief.

Effects of paravertebral massage and vibration:

- Increase in circulation and metabolism;
- Muscle relaxation and increase in elasticity and mobility.

1.4 Device view of TESI® table

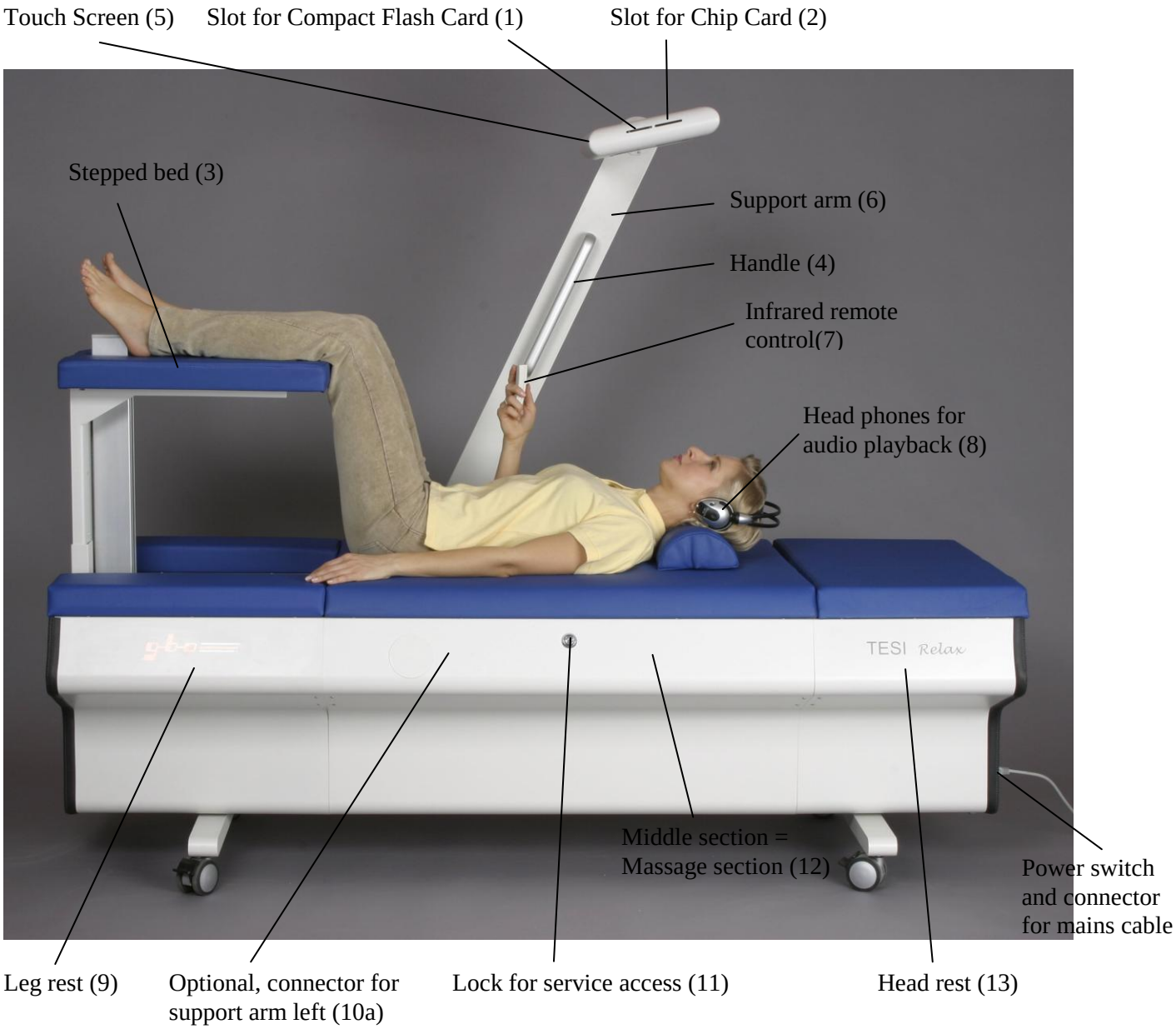

Figure 1: Device view

1.5 Short instructions

1. Switch on the table through the main switch at the front of the head piece (13). The device carries out an automatic check of all functions. The faultless automatic check ends with an acoustic sign (triad-gong).

2. Please act upon the instructions shown on the Touch Screen. The instructions depend on the accounting mode of the table. You can choose between "free access/unlocked mode" (in this mode you don't need a chip card to use the table) and "card with time credit" or "personal card" (for details see Chapter settings). In the following the instructions for the a locked mode are described.

3. On the Touch Screen you find the request: "Please insert your chip card to activate!"

4. The patient inserts his chip card into the slot to unlock the table.

5. The patient positions himself on the table according to the intended treatment.

6. On the Touch Screen you find the request: "Load settings of last treatment from chip card?"

   - By touching the YES-Button on the Touch Screen or the OK-Button on the remote control the treatment of the stored settings will be started.
   - By touching the NO-Button on the Touch Screen the request to adjust the height of the stepped bed (3) will appear. After adjusting the height press the OK-Button and the treatment will be started with the basic settings.
     If you use the remote control: Press the (+) button to activate NO. Press OK. The request to adjust the height of the stepped bed (3) will appear. Adjust the height according to the instructions on the Touch Screen and press OK. The treatment will be started with the basic settings.

!! Note!

If you use **newly created personal cards** or **cards with time credit** this request does not appear. You will only find the request to adjust the height of the stepped bed (3). Adjust the height according to the instructions on the Touch Screen and press OK. The treatment will be started with the basic settings.

7. If the patient wants to change the settings, he can adjust them with the remote control. Or, if desired, the settings can be changed on the Touch Screen by touching the respective buttons.

8. The treatment time ends with the triad-gong. The massage rollers move down and stop. Vibration stops.

9. After the treatment the patient should remain in an upright position with his legs dangling over the side of the table for about 3 to 5 minutes and remain quiet and relaxed.

10. If the table is not used any longer, press the **Standby-push-button**. If the table is not used for 10 minutes it switches automatically in standby-mode (this may be customized at the settings menu). By pressing the **Standby-push-button** again or by touching the Touch Screen the table will be activated again.

!! Note!

You can handle the table at any time with the Touch Screen as well as with the remote control. The activated function will appear in green colour on the display.

2 Start of operation

2.1 Transport and assembly

To place the unit, each plane surface is appropriate. Please take care of having enough space around the device to reach the power switch comfortably and possibly be able to pull off the power cable. Keep a wall distance of at least 20 cm. For fixing the device please use the brakes of the rollers.
The device should not be placed in front of radiators or radiant. The device is not made for outdoor operation.

The **TESI® Relax** corresponds to the regulations of EN 60601-1. It is a device of protection class I. Within the scope of the Medical Device Directive (MPG) the **TESI® Relax** belongs to class IIb (please observe also Chapter 7 Warnings and safety precautions).

Please check all components to be in external integrity before use.

Warning!

- The unit is not designed to be operated in places with the inherent risk of explosions. If it is used in dangerous areas of anesthesia departments, the possibility of an explosion cannot be excluded.
- If the patient and/or the patient cable is directly exposed to a radiator of a medical device for high frequency heat therapy, damage of the device or danger to the patient cannot be excluded. As a rule, a clearance distance of 2 - 3 m is sufficient.
- Do not pierce the heated cover.
- In case of any visible operational disturbances, please contact gbo Medizintechnik AG or one of the service agencies authorized by gbo Medizintechnik AG immediately .

2.2 Connection and switch-on

The **TESI® Relax** has been set to be connected to supply voltages of 100 - 240 V. Irrespective of the adjusted mains voltage, the device is appropriate for power frequencies of 50 to 60 Hz.

Connect the device with the mains cable to a socket with protective ground. The protective ground must work correctly.

The **TESI® Relax** is switched on by the mains switch at the front of the head piece (13). By this arrangement an erroneous or unintended disconnection of the device during normal operations shall be avoided.

After switching on the **TESI® Relax**, an automatic check of all functions will be carried out.

Warning!

To avoid the risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

It is only allowed to connect CompactFlash-cards or chip-cards provided by the manufacturer into the card-slots of the device.

2.2.1 Fuses

1. Unplug the mains plug.
2. The device is protected by 2 fuses on the mains side that are located in a pluggable box at the front of the head piece (10).
3. With a screw driver the box can be pulled out of the receiver by the small slot.
4. Only fuses that correspond to the specifications named in the technical data should be used.

Warning!

Risk of fire if unqualified fuses are used!

2.3 Placing out of operation

In order to disconnect the device just disconnect it from the mains power supply. No other measures are to be taken.

2.4 Waste removal of the device and accessories

This product complies with WEEE Directive 2002/96/EG (waste electrical and electronic equipment). Separate collection for electrical and electronic equipment. The waste removal at the end of the service life will be done by the manufacturer.

2.5 Settings

2.5.1 The menu

You can open the menu by using the adjustment card or a service card. The adjustment card is included in the delivery of the table.

When inserting the respective card the menu will be opened. It provides the following submenus:

- Basic settings (see Chapter 2.5.3);
- Device settings (see Chapter 2.5.2);
- Create chip cards (see Chapter 2.5.4);
- Service menu (see Service manual; it can only be activated by a service card).

The settings are device-specific settings (see Table 1 and Table 2). These settings should be done during installation by a medical product adviser or a service technician. Once the **TESI®** table has been switched on and is ready, you can start the threapy immediately using the customized settings.

!! Note!

You can only start the menu if no treatment is in progress and the correct chip card is inserted.
You can handle the table at any time with the Touch Screen as well as by the remote control. The activated function will appear in green colour on the display.

2.5.2 Device settings

Several device settings allow the user to customize the user interface and the device's behavior. The settings will be automatically restored when the device starts up.

Settings	**Setting options**	**Basic settings upon delivery**
Language * This language is not activated on delivery.	German English Russian Espanõl* Italiano* Francais*	German
Access control	Personal cards Cards with time credit Unlocked mode (free access)	Personal cards
Volume of gong	0 – 3	1
Standby	After 10 min After 30 min Never	After 10 min

Table 1: Settings

1. Insert the service card or adjustment card in the intended slot at the Touch Screen.
2. You are in the menu. Act according to the instructions on the Touch Screen.
3. Touch the **Button** for settings.
4. You are in the submenu settings. The submenu provides the above-mentioned options.
5. Modify the device settings by touching the respective **Button**.
6. Change the parameters to the desired setting.
7. To store confirm by touching the Button **(OK)**. If you do not want to store the modifications of the settings touch the Button **(Abort)**. You return to the menu.
8. Pull out the chip card. Dependent on the access control, the following request appears on the display: "Please insert your chip card to activate!". The table is ready for treament.

2.5.3 Basic settings

The following therapy settings can be customized and will be automatically restored when the device starts up:

Settings	Possible options	Basic settings upon delivery
Compression of the rolls	0 - 100	50
Speed (cm/s)	0 - 15	5
Vibration (Hz)	off, 15 - 35	19
Spine area	analog	
Height of stepped bed (cm)	0 - 50	0
Temperature (°C)	15 - 35	20
Time of treatment (min)	0 - 30	10
Volume of audio signal	0 - 15	0

Table 2: Basic settings

1. Insert the service card or adjustment card (see Chapter 3.5) in the intended slot at the Touch Screen.
2. You are in the menu. Act according to the instructions on the Touch Screen.
3. Touch the **Button** for basic settings.
4. You are in the submenu basic settings. The submenu provides the above-mentioned options.
5. Modify the device settings by touching the respective **Button**.
6. Change the parameters to the desired setting.
7. To store confirm by touching the Button **(OK)**. If you do not want to store the modifications of the settings touch the Button **(Abort)**. You return to the menu.
8. Eject the chip card. Dependent on the access control the following request appears on the display: "Please insert your chip card to activate!". The table is ready for treament.

2.5.4 Creating chip cards

For the creation of chip cards please act according to the instructions on the Touch Screen!

1. Insert the service card or adjustment card (see Chapter 3.5) in the intended slot at the Touch Screen.
2. You are in the menu. Act according to the instructions on the Touch Screen.
3. Touch the **Button** in order to create chip cards.
4. You are in the submenu create chip cards.
5. Touch on the button for the desired card (service card, adjustment card, personal card, card with time credit; see also Chapter 3.5).
6. In case you want to create a personal card or card with time credit, you will be requested to enter the desired time account. You can choose between 1, 2, 5 and 10 hours. Confirm your choice with the (OK) Button.
7. Eject the service or adjustment card.
8. Insert the card that you want to create in the intended slot at the Touch Screen. The card will be programmed.
9. Eject the card when you see the information on the display that the programming has been successful.
10. If you want to generate further cards, insert the service or adjustment card in the intended slot and repeat the above mentioned procedure. Otherwise, touch the Button **(Abort)**. You return to the menu. Eject the chip card. Dependent on the access control the following request appears on the display: “Please insert your chip card to activate!”. The table is ready for treament.

Note!

You can handle the table at any time with the Touch Screen as well as by the remote control. The activated function will appear in green colour on the display.

3 Description of function

3.1 Standby-push-button

The standby-push-button is placed on the right side below the Touch Screen. If the device is in standby-mode, the standby-push-button is shining.

You can put the table in standby-mode by pressing the standby-push-button. The stepped bed will lower down and all functions of the table are switched off. By pressing the standby-push-button again, the normal functions of the table will be reactivated.

10 minutes after the end of the treatment the device will automatically activate the stand-by-mode, which means that the stepped bed will move down. This setting can be modified *(see chapter 2.5.2).*

3.2 Optical and acoustic user guidance

Optical user guidance:

Optical user guidance is effected on the **Touch Screen.** The setting, which is changed at the moment, is displayed in **green.**

Acoustic user guidance:

The following table shows the acoustic signals and the relating meaning:

Type of signal	**Reason**
Information sound	• In case of a failure;
Triad gong	• At the end of the faultless automatic check when switching on the device; • At the end of the treatment time.

Table 3: Acoustic user guidance

3.3 Remote control

The remote control is an infrared remote control with plastic foil keyboard. By the remote control the patient is able to change the settings at anytime before and especially during the treatment. The cuurrent meaning of the buttons are displayed on the Touch Screen (see Figure 2).

- By touching the **Buttons (<,>)** setting/function can be selected.
- By touching the **Buttons (+,–)** the value of setting/function can be changed.
- By touching the **Button (OK)** you confirm your choice.

If you want to change the batteries:

1. Open the remote control by unscrewing the cross-head screw on the backside of the remote control.
2. Open the cover-plate carefully. Please pay attention to the connecting cables between the cover-plate and the backside of the remote control.
3. Remove the holding-clamp for the batteries by dismantling the screw.
4. Replace the old batteries with two new micro-batteries.
5. Fix the holding-clamp.

6. Lock the housing of the remote-control on the bakcside with the cross-head screw.

3.4 Touch Screen

TESI® Relax has a high-resolution colour graphic display (640 x 480 pixels). In front of this display there is a touch panel. This whole unit is therefore called Touch Screen.

Following settings are shown on the Touch Screen:

Settings	Possible variations of setting
Pressure of the rolls	0 - 100
Speed (cm/s)	0 – 15 cm/s
Vibration (Hz)	off, 15 – 35 Hz
Spine area	analog
Height of stepped bed (cm)	0 – 50 cm
Temperature (°C)	20 – 35 °C
Time of treatment (min)	1 – 30 min
Volume of audio signal	0 - 15

Table 4: Possible variations of the settings

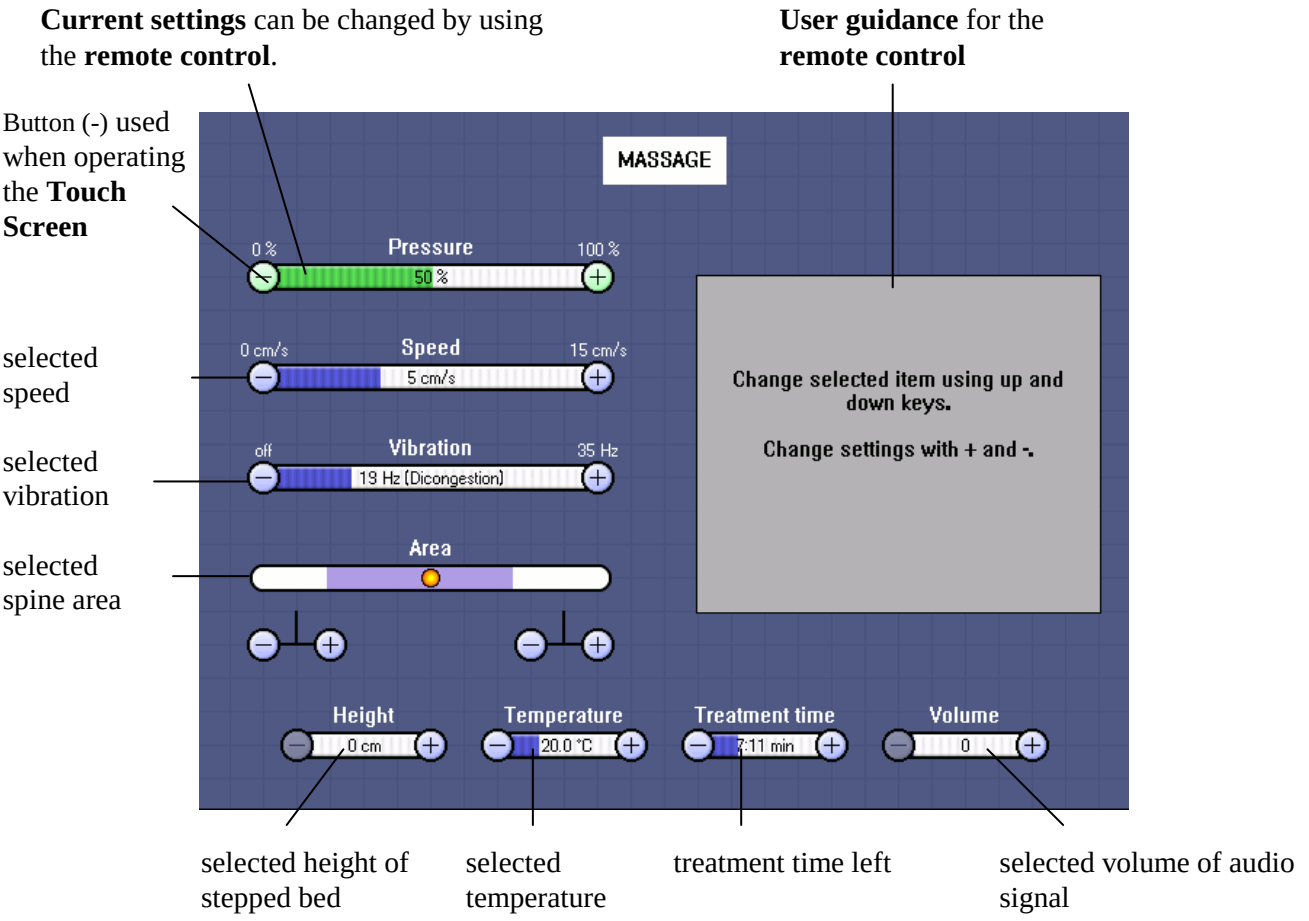

Figure 2: Display shown during the treatment

3.5 Chip cards

There are four types of chip cards:

1. **Service card**
   This authorized card is meant for:
   - Using the service menu;
   - Creating chip cards including service cards, see Chapter 2.5.4;
   - Changing device settings, see Chapter 2.5.2;
   - Changing basic settings, see Chapter 2.5.3.

2. **Adjustment card**
   This authorized card is meant for:
   - Creating chip cards, see Chapter 2.5.4;
   - Changing device settings, see Chapter 2.5.2;
   - Changing basic settings, see Chapter 2.5.3.

3. **Personal card**
   With this chip card the patient can use the **TESI® Relax** for pre-paid time of treatment. The treatment settings used last are stored on the card and will be applicable for the next treatment.

4. **Card with time credit**
   With this chip card the patient can use the **TESI® Relax** for pre-paid time of treatment. However, no treatment settings can be stored on this card.

3.6 Head phones

The head phones included in the scope of delivery are used for audio playback.
Please note that there is also a volume control regulator at the earphones. You can set the volume at the head phones to maximum and adjust it comfortably on the Touch Screen or by remote control.

3.7 Compact Flash Card

The Compact Flash Card has stored about 1 hour of music. In order to play this music insert the Compact Flash Card in the intended slot at the Touch Screen. Activate the settings for volume control and choose from the menu playback. Confirm your choice by touching the **Button (OK).** Adjust the volume according to your desire. Now you can listen to the music through the head phones.

4 Therapy

4.1 Thermotherapy

For thermotherapy the cover of the middle section of the **TESI® Relax** table can be heated. If required the thermotherapy can be combined with all other therapies.

By touching the **Button (+)** or **Button (-)** on the Touch Screen the temperature of the cover of the middle section of the **TESI® Relax** table can either be increased up to a maximum heating capacity of 35°C or reduced.

4.2 Massage

Through casters which pass the vertebral column with adjustable pressure it is possible to apply a paravertebral roller massage with in-depth muscular effect. The height of the massage rollers is adjustable. If required the massage can be supported by an additional and separately connectable vibration.

The massage is independent of the thermotherapy and extension treatment but can be combined with them if required.

1. By touching the **Buttons (+,-)** you set:
   - Temperature (if thermotherapy is required),
   - Raise of step.
2. Touch the **Button** for massage. The roller pressure will be set on 50%.
3. Touch the **Buttons (+,-)** to set the treatment time.
4. Touch the **Buttons (+,-)** to set the roller pressure.
5. Touch the **Buttons (<,>)** to set the region of the back.
6. Touch the **Buttons (+,-)** to set the speed, the massage starts! The treatment time does not pass yet (see Point 8).
7. If required, set the vibration by touching the **Buttons (+,-)**.
8. Touch the **Start-Button**. The treatment time passes.
9. At the end of the treatment time the triad-gong sounds. The massage rollers go down and stop. Vibration stops.
10. After the treatment the patient should remain in an upright position with his legs dangling over the side of the table for about 3 to 5 minutes and remain quiet and relaxed.

11. If the table is not used any longer, press the **Standby-push-button**.

!! Note!

- The treatment can be stopped at any time by touching the **Button (Stop)**.
- The treatment can be stopped at any time by pressing the **Interruption switch**.
- 10 minutes after the end of the treatment the device will automatically activate the standby-mode, consequently the stepped bed will move down.This setting can be modified *(see Chapter 2.3.2).*

4.3 Course of treatment

In general, the course of treatment is as follows:

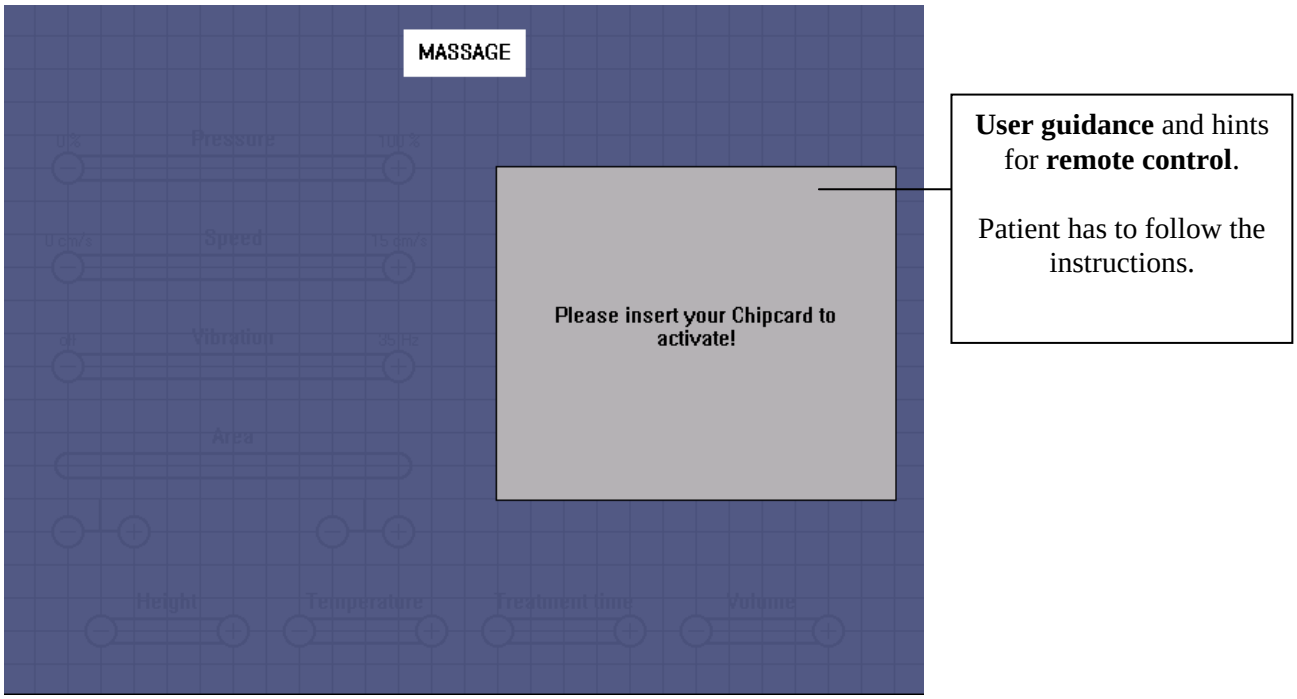

Figure 3: Basic display of Touch Screens

1. Follow the instructions on the Touch Screen.
2. On the Touch Screen you find the request: „Please insert your chip card to activate!“
3. Insert the chip card into the slot. The table will be unlocked.
4. The patient positions himself on the table according to the intended treatment.
5. a) **In case of current settings stored,** on the Touch Screen you will find the request: „Load settings of the last treatment from chip card?”
   - By touching the **Button (YES)** on the Touch Screen or by pressing the **Button (OK)** on the remote control the treatment of the stored settings will be started. Continue with point 6.
   - By touching the **Button (NO)** on the Touch Screen or by pressing the **Button (+) → Button (NO)** will be activated → pressing the **Button (OK).** Continue with point 5.b)

   b) **Alternatively:** If you use a new personal card or card with time credit you will find the request: “Please change height of stepped bed using the keys +‘ and ‚-‘ . Proceed with ‘OK’.“
   Change height of stepped bed accordingly and confirm with **OK.** Treatment will start with basic settings.
6. If the patient wants some changes in the settings, he can adjust them at any time during the treatment by the remote control. Optionally, the settings can be changed on the Touch Screen by touching the respective buttons.
7. The treatment time ends with the triad-gong . The massage rollers will move down and stop. Vibration stops.
8. If a **personal chip card** is used, current settings of the treatment will be stored at the end of the treatment to make it possible to use them for the next treatment.

At the end of the treatment the following request appears: “Question: Do you want to activate with another treatment?”

- By touching the **Button (YES)** on the Touch Screen or pressing **Button (OK)** on the remote control treatment will be started with the current settings again.
- By touching the **Button (No)** on the Touch Screen or pressing **Button (+) → Button (NO)** will be activated → pressing the **Button (OK)** . Continue with point 9.

9. You will find the instruction to remove the chip card. After removing the chip card **TESI Relax** will be deactivated.

10. After the treatment the patient should remain in an upright position with his legs dangling over the side of the table for about 3 to 5 minutes and remain quiet and relaxed.

!! Note!

- You can handle the table at any time with the Touch Screen as well as by the remote control. The activated function will appear in green colour on the display.
- While adjusting parameters for Vibration you have the possibility to select the desired effectiveness:
  - Dicongestion = 19 Hz
  - Warming up phase = 23 Hz
  - Build-up of muscles = 25 Hz
  - Muscle extension = 26 Hz
  - Pain relief = 29 Hz

- While adjusting parameters for Volume you have the possibility to select the function of play back:
  - Play
  - Next track
  - Last track
  - Stop

Continue with OK.

5 Behavior in case of failures

The following failures will be indicated by the **TESI** table both optically and acoustically. Most of them can be remedied by following the instructions on the display. As a rule, the following applies:

1. The **TESI®** table will not execute any incorrectly entered functions or modifications entered by pressing on the Touch Screen.
2. The acoustic error signal will sound.
3. An error message will appear on the display.

5.1 Notes

♦ Note – Touch the screen with a single finger only. Don't slide over the screen.

Possible reason: The Touch Screen was touched at several different points or the fingers made a sliding movement across the screen. The Touch Screen must not be operated in this way.

Suggestion:
1. Please note that the Touch Screen will only work properly if it is touched only by a single finger at a single point. If more than one finger or the ball of the thumb are placed on the active surface, this will trigger the error message shown above.
2. Confirm the message with the **Button (OK)**.

♦ Note – Time credit of chip card expired. Please recharge your card for future use.

Possible reason: The time credit of the card is expired.

Suggestion:
Recharge time account on the card.

5.2 Warnings

♦ Warning – The stepped bed has been stopped! It should only be moved without load.

Possible reason: The stepped bed can only be moved when not under excessive load.

Suggestion:
1. The patient must remove his feet from the stepped bed.
2. Touch the **Button (OK)**.
3. Move the stepped bed into the desired position.

♦ Warning – The carriage motor is blocked and was stopped.

Possible reason: The carriage cannot be moved and was therefore stopped for safety reasons.

Suggestion:
1. Remove all unnecessary loads from the cover.
2. Confirm the message by touching the **Button (OK)** and try again to move the carriage by touching the Touch Screen.
3. If the message appears again, contact the Service Center.

♦ Warning – The spindle motor is blocked and was stopped.

Possible reason: The contact pressure adjuster for the carriage cannot be moved and has therefore been stopped for safety reasons.

Suggestion:
1. Remove all unnecessary loads from the cover.
2. Confirm the message by touching the **Button (OK)** and try to move the carriage again by touching the Touch Screen.
3. If the message appears again, contact the Service Center.

5.3 Errors

There are two possible error messages:

♦ Error - CAN: No ACK.

and

♦ Error - CAN: Timeout.

Possible reason: A communication error between the different internal subsystems occurred.

Suggestion: Contact the service center.

5.4 Other notes

The remote control doesn't work.

Suggestion:
1. Change the batteries.
2. If the remote control is still not working, please contact the service center.

6 Maintenance

Functionality, reliability and safety characteristics of the **TESI® Relax** table are only guaranteed in case of proper use in accordance with the operating instructions. Safety control, maintenance work, repair work and modifications shall only be carried out by the manufacturer or the service agents authorized by him. In case of a failure, parts which influence the safety of the device shall only be replaced by original spare parts of the manufacturer. The electric installation shall be carried out in accordance with the requirements of VDE/IEC.

Simple maintenance (e.g. lubrication of the rollers) will be carried out by the user in accordance to the instructions. The middle part of the patient cover can be removed by the user. In case of intended use the removable middle section of the patient' cover must be placed and locked with the fastener. All other service works shall be carried out by service agents authorized by the manufacturer.

The device does not contain any parts which require maintenance work by the user.

6.1 Legal provisions and requirements

The device is subject to the provisions of the Medical Device Directive. The safety controls have to be carried out on the basis of this directive. Thereby, the operator regulation has to be observed in particular. Operators of medical devices in active use are obligated to maintain a book of the medical devicse and document all safety controls.

Note!
The Medical Device Directive is only valid in countries throughout the EU.

6.2 Safety controls

The device is subject to the Medical Device Directive. The safety controls are to be carried out on the basis of this directive at 12-months intervals by a qualified service agency.

Irrespective of the legal rules or beyond the scope of the Medical Device Directive, it is recommended to have the device checked by the manufacturer or by a service agency authorized by him at 12-months intervals.

The check shall consist of at least the following criteria:

- Safety check of electric parts of the device
- Check of the device in respect of external integrity
- Check of all display and operating elements in respect of damages
- Check of all inscriptions in respect of legibility
- Check of the power-cable
- Check of all functions of the device

The manufacturer keeps a respective check list available.

6.3 Cleaning, disinfection and care

Warning!

Before cleaning or disinfection unplug the mains plug out of the socket!

The device is suited for wiping disinfection. Make sure that no liquids soak into the device. Under no circumstances the plug or socket must get wet. Do not sprinkle the device for cleaning or disinfection. The device is not suited for hot sterilisation or sterilisation with gases.

- To clean the imitation leather parts use a dry or damp cloth. Do not use any agents containing higher portions of alcohol. Example for usefull products to be used for cleaning are: “Mikrobac Tissues” by Hartmann/Bode or “Cleanisept Wipes” by Dr. Schumacher.

- If the imitation leather of the heating cover is wet, dry it carefully. In case you detect any damage or disturbance, the heating cover has to be repaired by the manufacturer.

- For the equipment dry cleaning is recommended.

- To clean the remote control use a dry or damp cloth. Be careful that no liquid penetrates the housing of the remote control.

7 Warnings and safety precautions

Warning!

- Do not pierce the heating cover accidentally.

- In case of any visible operational disturbances, please contact immediately gbo Medizintechnik AG or one of the service agencies authorized by gbo Medizintechnik AG.

8 Explanation of the signs used

CE Conformity sign

Observe the instructions for use!

Application section with protection class B

This product complies with WEEE Directive 2002/96/EG (waste electrical and electronic equipment). Separate collection for electrical and electronic equipment.

9 Technical data

Supply voltage and supply frequency:	100-240V 50 – 60 Hz	
Current consumption:	max. 2.3 A at 100 V max. 0.95 A at 240 V	
Mains fuses:	T 6.3A H 250V	
Vibration frequency:	15 – 35 Hz ± 0.5Hz	
Heating temperature:	max. 35°C at 23°C ambient temperature	
Accuracy of position of stepped bed:	± 2 cm	
Operating mode:	Continuous operation	
MPG device class:	IIa	
Protection class:	I	
Protection degree:	B	
IP class:	IPX0	
Safe working load:	Table: 135 kg	
	Stepped bed: 45 kg	
	Support arm: 75 kg	The handle of the support arm can be used to get up.
Dimensions:	max. 66/175 cm(*) x 200 cm x 94 cm (height x depth x width) (*)height of the device without/with support arm	
Weight:	max. 80 kg without accessories	
Color:	RAL 9002 or special varnish Coat blue	
Display:	TFT-Display	
Environmental conditions:	Operation:	Temperature range +10° C ... +35° C Relative air humidity 30 ... 75 %
	Transport and storage:	Temperature +10° C ... +50° C Relative air humidity < 90 %, non condensing

By request of technical personnel gbo Medizintechnik AG can offer spare part lists check lists and circuit diagrams.

The mains connector is used for all pin disconnection from the mains power supply.

gbo Medizintechnik AG reserves the right to modify the design and specification without prior notice.

10 Accessories

Part		**Part number**
TESI® Relax Scope of supply	1 Mains supply cable 1 User's manual 1 Infrared remote control 1 Adjustment card 1 Chip card freely programmable 1 Cervical bolster small 1 Compact flash card 1 Relaxation CD 1 Head phones set	018-0-0010
Chip card freely programmable		018-4-0006
Adjustment card		018-4-0006-EK
Infrared remote control		018-1-0059
Head phones		018-4-0012
Headphones (for hardware revision F and higher)		017-4-0005
Head phones (wireless, for hardware revision E and lower)		018-4-0012
Cervical bolster small		016-0-0058

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Note!

Use gbo original accessories only to guarantee the safe function of the unit.

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Notes in accordance with the EC Directive and Medical Device Directive

The **TESI® Relax** is a mains operated system for combined physical therapy of protection class **I**.

The device is in accordance with the EC Medical Device Directive (93/42/EEC) and therefore carries the CE sign with the registration number of the notified body for medical devices. The respective graphical symbol is placed on the type plate.

According to the Medical Device Directive, the **TESI® Relax** tables are devices of class **IIa**.

The manufacturer is only responsible for the safety, operational reliability and functionality of the device if:

- the device is used in accordance with the instructions for use, especially the notes concerning maintenance and cleaning of the device as described in Chapter 6;
- the electrical installation of the location where the device will be used corresponds to the respective current requirements of electrical safety;
- the device is not used in hazardous environments and humid locations;
- the mountings, amplifications, readjustments, modifications or repair works are carried out only by personnel authorized by the manufacturer;
- the operator regulation of this EC-directive is observed within the framework of the Medical Device Directive.

You will obtain technical support by the manufacturer, dealers or service authorized by the manufacturer. The product's life time anticipated by the manufacturer is 10 years.

The **TESI® Relax** tables are electronic devices. For their disposal the respective regulations for electronic devices have to be observed.

On request, the manufacturer will provide further technical descriptions for all repairable parts of the device, such as circuit diagrams, spare part lists and adjustment instructions as far as these are of use for the qualified technical staff of the operator.

Comments on electromagnetic compatibility (EMC)
Medical, electrical devices are subject to special precautions concerning the EMC. They must be installed and operated according to the EMC-advice given in the accompanying documents. In particular medical, electrical devices may be influenced by portable and mobile RF-communication devices.

The manufacturer guarantees the conformity of the unit with the EMC-requirements only when using accessories which are listed in the EC declaration of conformity. The usage of other accessories may cause an increased emission of electromagnetic disturbances or may lead to a reduced electromagnetic immunity.

The unit must not be placed close to other devices or stacked. If such an arrangement cannot be avoided the unit must be observed for the intentional operation.

You find more EMC-comments in the Chapter "Warnings and Safety Precautions" of this manual as well as in the Technical Information on the next two pages.

In accordance with the EMC-regulations for medical products we are obliged by law to provide the following information.

Guidance and manufacturer's declaration — electromagnetic emissions

The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment should assure that it is used in said environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions, CISPR 11	Group 1	The equipment uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions, CISPR 11	Class B	The equipment is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions, IEC 61000-3-2 (*)	Class A	
Voltage fluctuation/flicker emissions, IEC 61000-3-3 (*)	Complies	

(*) Note: For devices with a power consumption between 75 W and 1000 W only.

Guidance and manufacturer's declaration — electromagnetic immunity

The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment should assure that it is used in said environment.

Immunity test	IEC 60601- test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD), IEC61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst, IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge, IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines, IEC 61000-4-11	<5 % U_τ for ½ cycle (>95 % dip) 40 % U_τ for 5 cycles 60 % dip) 70 % U_τ for 25 cycles 30 % dip) <95 % U_τ for 5 s (>5 % dip)	<5 % U_τ for ½ cycle (>95 % dip) 40 % U_τ for 5 cycles 60 % dip) 70 % U_τ for 25 cycles 30 % dip) <95 % U_τ for 5 s (>5 % dip)	Mains power quality should be that of a typical commercial or hospital environment. If the user of the equipment requires continued operation during power mains interruptions, it is recommended that the equipment be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field, IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Note: U_τ is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer's declaration — electromagnetic immunity

The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment should assure that it is used in said environment.			
Immunity test	**IEC 60601- test level**	**Compliance level**	**Electromagnetic environment – guidance**
			Portable and mobile RF communications equipment should be used no closer to any part of the equipment, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance:**
Conducted RF, IEC 61000-4-6	3 V_{rms} 150 kHz to 80 MHz	3 V_{eff}	$d=1.2\sqrt{P}$
Radiated RF, IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3V/m	$d=1.2\sqrt{P}$ for 80 MHz to 800 MHz $d=2.3\sqrt{P}$ for 800 MHz to 2.5 GHz
			Where P is the maximum output power rating of the transmitter in watts according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Interference may occur in the vicinity of equipment marked with the following symbol: 

Recommended separation distances to portable and mobile RF communication equipment

The equipment is intended to be operated in an electromagnetic environment, where radiated RF interference is controlled. The user can help in avoiding interferences by means of meeting minimum separation distances between portable and mobile RF communication equipment (transmitters) according to the maximum output power of the communication equipment.			
Rated power of the transmitter (W)	**Separation distance according to the transmission frequency (m)**		
	150 kHz to 80 MHz $d=1.2\sqrt{P}$	**80 MHz to 800 MHz $d=1.2\sqrt{P}$**	**800 MHz to 2.5 GHz $d=2.3\sqrt{P}$**
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23